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EXAMINER	
QUAN, ELIZABETH S	

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1743	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/811,999	SHA ET AL.	
	Examiner	Art Unit	
	Elizabeth Quan	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5-9,37,41 and 42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-9,37,41 and 42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 1, 5-9, 37, 41, 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 1 and 37 are rendered indefinite by the recitation of "nor is said first well entirely located around a perimeter of said second well" since it is unclear what structural limitation this referring to. Technically, in the instant invention, the first well taken in its totality is located on the perimeter of the second well. For examining purposes, the limitation has been interpreted as the first well does not completely surround or engulf the second well along the perimeter of the second well.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 5, 6, 7, 9 are rejected under 35 U.S.C. 102(e) as being anticipated by CrystalClear Strips website downloaded 1/18/2001.

CrystalClear Strips website discloses a multi-well high-throughput protein crystallization plate comprising a frame with a plurality of wells formed therein (page 1). Focus will be placed on the version of CrystalClear Strips with depression CCLEAR-D/1, which is shown on page 2. Each well includes a first well having a relatively small reservoir with a substantially concaved bottom and second well with a relatively large reservoir positioned near the relatively small reservoir of the first well (page 2). The first well is not entirely located within the second well, and the first well is not entirely located outside of the second well. The first well is not entirely located around a perimeter of the second well since the first well does not entirely surround the second well. The first and second wells share a wall of lesser height than the other walls of the second well, such that the space formed by the shortened wall is the region in which the first and second wells overlap. The configuration of the plate enables the protein and reagent solution within each of the small reservoirs to interact within the reagent solution within the large reservoir via a vapor diffusion process for the formation of protein crystals within each of the small reservoirs.

The frame of the microplate has a footprint that is capable of being handled by a robotic handling system (pages 1 and 2). It is noted that the frame of the microplate with a footprint **sized to be handled by a robotic handling system** has not been positively recited. Therefore, the sizing of footprint of the frame to be handled by a robotic handling system is not accorded patentable weight in the claim. The prior art does not have to teach or fairly suggest the frame actually being handled by the robotic handling system since the prior art teaches the frame with a footprint sized such that it is capable of being handled by a robotic handling system.

Each well is positioned on the frame, such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well (pages 1 and 2). It is noted that each well **positioned on the frame such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well** has not been positively recited. Therefore, the positioning of each well on the frame such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well is not accorded patentable weight in the claim. The prior art does not have to teach or fairly suggest a liquid handling system actually depositing a sample solution into the first well and reagent solution into the second well since the prior art teaches each well positioned such that it is capable of being accessed by a liquid handling system for depositing solutions.

Crystallization solution is placed in the second well, and crystallization solution with dissolved sample is placed in the first well (page 2). It is noted that when sample solution is mixed with crystallization solution, the overall solution containing the sample solution and crystallization solution, as well as the sample, the reagents used to create the sample solution, and the added reagent or crystallization solution, would be diluted or have a lesser concentration such that the reagent or crystallization solution added to the sample would have a lower concentration than the original reagent or crystallization solution, such that the concentration of the crystallization solution in the second wells is lower than the crystallization solution with sample solution of the first well. Additionally, the specification on page 23, lines 1-5 states that the uneven concentration between the reagent solution in the first well and the reagent solution in the second well drives a natural vapor diffusion process towards equilibrium. Since vapor

diffusion process occurs and reaches equilibrium by forming protein crystals in the first well or drop chamber of CrystalClear Strips, it would appear the reagents used with CrystalClear Strips would have an uneven concentration, where the reagents in second well has a higher concentration than the reagents in the first well.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1, 5-7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/00678 to Hol et al. in view of U.S. Patent No. 5,096,676 to McPherson et al.

Hol et al. disclose a multi-well high-throughput protein crystallization plate (10) comprising a frame (12) with a plurality of wells (26) formed therein (abstract; figs. 1 and 2; page 19, lines 1-8). Each well (26) includes a first well (32) with a relatively small reservoir and second well (28) with a relatively large reservoir positioned near the relatively small reservoir of the first well (32) (abstract; figs. 1 and 2; page 19, lines 1-8). The first well is not entirely located within the second well, and the first well is not entirely located outside of the second well. The first well is not entirely located around a perimeter of the second well since the first well does not entirely surround the second well. The first and second wells share a wall of lesser height than the other walls of the second well, such that the space formed by the shortened wall, which is labeled as the diffusion channel, is the region in which the first and second wells overlap. The configuration of the plate enables the protein and reagent solution within each of the small reservoirs to interact within the reagent solution within the large reservoir via a vapor diffusion process for the formation of protein crystals within each of the small reservoirs (page 15, lines 26-30; page 16, lines 5-20; page 20, lines 6-14).

The frame of the microplate has a footprint that is capable of being handled by a robotic handling system (figs. 1 and 2). It is noted that the frame of the microplate with a footprint **sized to be handled by a robotic handling system** has not been positively recited. Therefore, the sizing of footprint of the frame to be handled by a robotic handling system is not accorded patentable weight in the claim. The prior art does not have to teach or fairly suggest the frame

actually being handled by the robotic handling system since the prior art teaches the frame with a footprint sized such that it is capable of being handled by a robotic handling system.

Each well is positioned on the frame, such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well (figs. 1 and 2). It is noted that each well **positioned on the frame such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well** has not been positively recited. Therefore, the positioning of each well on the frame such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well is not accorded patentable weight in the claim. The prior art does not have to teach or fairly suggest a liquid handling system actually depositing a sample solution into the first well and reagent solution into the second well since the prior art teaches each well positioned such that it is capable of being accessed by a liquid handling system for depositing solutions.

Hol et al. disclose in EXAMPLE 1 that the first well or drop chamber (32) receives two microliters of the crystallization from the second well or central chamber/reservoir (28) (see PAGE 20, lines 8-10). Two microliters of dissolved protein is mixed with the two microliters of crystallization solution in the first well or drop chamber (32), and the crystallization chambers were sealed with Crystal Clear tape (see PAGE 20, lines 10-12). The dissolved protein was made by: 1) adding 1M ammonium hydroxide to a protein slurry until the solution becomes transparent, 2) adjusting the solution to 200 mM sodium chloride by the addition of 5 M sodium chloride stock solution, and 3) adjusting the solution to pH 7.0 by addition of 0.1 M hydrochloric acid (see PAGE 19, lines 29-35; PAGE 20, lines 1-5). The final concentration of protein was

determined to be 30 milligrams per millimeter, which is equivalent to 0.03 gram per milliliter or 3 grams per 100 milliliters or 3% (w/v) protein solution (see PAGE 20, lines 1 and 2). The protein crystallized in solution number 8 of Solution Set III or Table III (see PAGE 9). Solution number 8 is made of 2.0 M $(NH_4)_2SO_4$ or 26.4% (w/v) $(NH_4)_2SO_4$ using the molecular weight 132.1342 grams per mole of $(NH_4)_2SO_4$ (see PAGE 9). Solution number 8 may optionally contain 0.1 M buffer (see PAGE 9; PAGE 14, lines 10-13). In EXAMPLE 2 a protein solution has a concentration of 2% (see PAGE 20, lines 21 and 22). The protein crystallized in solution number 28 of Solution Set III or Table III (see PAGE 10). Solution number 28 is made of 20% (w/v) PEG-8000 (see PAGE 10). Solution number 28 may optionally contain 0.1 M HEPES pH 7.5 (see PAGE 10; PAGE 14, lines 13-15). It is noted that when two microliters of the protein solution is mixed with the two microliters of crystallization solution, the overall solution containing the protein solution and crystallization solution, as well as the protein, the reagents used to create the protein solution, and the added reagent or crystallization solution, would be diluted or have a lesser concentration such that the reagent or crystallization solution added to the protein would have a lower concentration than the original reagent or crystallization solution, such that the concentration of the crystallization solution in the second wells is lower than the crystallization solution with protein solution of the first well. Additionally, the specification on page 23, lines 1-5 states that the uneven concentration between the reagent solution in the first well and the reagent solution in the second well drives a natural vapor diffusion process towards equilibrium. Since vapor diffusion process occurs and reaches equilibrium by forming protein crystals in the first well or drop chamber in Hol et al., it would appear the reagents used in Hol et al. have an uneven concentration, where the reagents in second well has a higher concentration

than the reagents in the first well (see PAGE 1, lines 23 and 24; PAGE 2, lines 1 and 2; PAGE 15, lines 5-35; PAGE 16, lines 1-35; PAGE 17, lines 1-35; PAGE 18, lines 1-35).

In Hol et al. it is unclear whether the bottoms of each of the relatively small reservoirs of the first wells are concaved. However, McPherson et al. disclose the relatively small reservoir of the first well (30) with a substantially concaved bottom (see 53-58). The first well (30) can be formed of an optimum size and shape to accommodate the particular protein drop being crystallized (see COL. 4, lines 52-55). When lower surface tension solutions, including protein solutions containing detergents are used, a cup-shaped receptacle or a receptacle with a substantially concaved bottom has proven satisfactory (see COL. 4, lines 55-58). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the microplate of Hol et al. to make the relatively small reservoir of the first well with a substantially concaved bottom as in McPherson et al. to accommodate the particular protein drop being crystallized when using lower surface tension solutions.

Hol et al. in Example 1 disclose that the wells are sealed with Crystal Clear tape. Regardless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the microplate of Hol et al. to include a seal positioned over the plurality of wells as in McPherson et al. to seal the wells from the atmosphere making it conducive to the vapor diffusion process for generating crystals (see COL. 4, lines 3-16; COL. 5, lines 5-25).

10. Claims 1, 5-7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,039,804 to Kim et al. in view of U.S. Patent No. 5,096,676 to McPherson et al.

Kim et al. disclose a multi-well high-throughput protein crystallization plate (10) comprising a frame (12) with a plurality of wells (26) formed therein (figs. 1-7, cols 4-7). Each well (26) includes a first well (32) with a relatively small reservoir and second well (28) with a relatively large reservoir positioned near the relatively small reservoir of the first well (32) (Kim et al.: figs. 1-7, cols 4-7). The first well is not entirely located within the second well, and the first well is not entirely located outside of the second well. The first well is not entirely located around a perimeter of the second well since the first well does not entirely surround the second well. The first and second wells share a wall of lesser height than the other walls of the second well, such that the space formed by the shortened wall, which is labeled as the diffusion channel, is the region in which the first and second wells overlap. The configuration of the plate enables the protein and reagent solution within each of the small reservoirs to interact within the reagent solution within the large reservoir via a vapor diffusion process for the formation of protein crystals within each of the small reservoirs (col. 2, lines 48-62).

The frame of the microplate has a footprint that is capable of being handled by a robotic handling system (figs. 1 and 2). It is noted that the frame of the microplate with a footprint **sized to be handled by a robotic handling system** has not been positively recited. Therefore, the sizing of footprint of the frame to be handled by a robotic handling system is not accorded patentable weight in the claim. The prior art does not have to teach or fairly suggest the frame actually being handled by the robotic handling system since the prior art teaches the frame with a footprint sized such that it is capable of being handled by a robotic handling system.

Each well is positioned on the frame, such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second

well (figs. 1 and 2). It is noted that each well **positioned on the frame such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well** has not been positively recited. Therefore, the positioning of each well on the frame such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well is not accorded patentable weight in the claim. The prior art does not have to teach or fairly suggest a liquid handling system actually depositing a sample solution into the first well and reagent solution into the second well since the prior art teaches each well positioned such that it is capable of being accessed by a liquid handling system for depositing solutions.

Crystallization solution is placed in the second well, and crystallization solution with dissolved protein is placed in the first well (col. 2, lines 30-33). It is noted that when protein solution is mixed with crystallization solution, the overall solution containing the protein solution and crystallization solution, as well as the protein, the reagents used to create the protein solution, and the added reagent or crystallization solution, would be diluted or have a lesser concentration such that the reagent or crystallization solution added to the protein would have a lower concentration than the original reagent or crystallization solution, such that the concentration of the crystallization solution in the second wells is lower than the crystallization solution with protein solution of the first well. Additionally, the specification on page 23, lines 1-5 states that the uneven concentration between the reagent solution in the first well and the reagent solution in the second well drives a natural vapor diffusion process towards equilibrium. Since vapor diffusion process occurs and reaches equilibrium by forming protein crystals in the first well or drop chamber in Kim et al., it would appear the reagents used in Kim et al. have an

uneven concentration, where the reagents in second well has a higher concentration than the reagents in the first well (col. 5, lines 9-15).

Kim et al. do not disclose that the bottoms of each of the relatively small reservoirs of the first wells are concaved. However, McPherson et al. disclose the relatively small reservoir of the first well (30) with a substantially concaved bottom (see 53-58). The first well (30) can be formed of an optimum size and shape to accommodate the particular protein drop being crystallized (see COL. 4, lines 52-55). When lower surface tension solutions, including protein solutions containing detergents are used, a cup-shaped receptacle or a receptacle with a substantially concaved bottom has proven satisfactory (see COL. 4, lines 55-58). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the microplate of Kim et al. to make the relatively small reservoir of the first well with a substantially concaved bottom as in McPherson et al. to accommodate the particular protein drop being crystallized when using lower surface tension solutions.

Kim et al. in Example 1 disclose that the wells are sealed with clear, adhesive tape (col. 2, lines 43-46; col. 4, line 56-col. 5, line 3). Regardless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the microplate of Kim et al. to include a seal positioned over the plurality of wells as in McPherson et al. to seal the wells from the atmosphere making it conducive to the vapor diffusion process for generating crystals (see COL. 4, lines 3-16; COL. 5, lines 5-25).

11. Claims 1, 5-7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens' "High-Throughput Protein Crystallization" in view of U.S. Patent No. 5,096,676 to McPherson et al.

Stevens discloses a multi-well high-throughput protein crystallization plate comprising a frame with a plurality of wells formed therein (fig. 1b). Each well includes a first well having a relatively small reservoir with a substantially concaved bottom and second well with a relatively large reservoir positioned near the relatively small reservoir of the first well (fig. 1b). The first well is not entirely located within the second well, and the first well is not entirely located outside of the second well. The first well is not entirely located around a perimeter of the second well since the first well does not entirely surround the second well. The first and second wells share a wall of lesser height than the other walls of the second well, such that the space formed by the shortened wall is the region in which the first and second wells overlap. The configuration of the plate enables the protein and reagent solution within each of the small reservoirs to interact within the reagent solution within the large reservoir via a vapor diffusion process for the formation of protein crystals within each of the small reservoirs.

The frame of the microplate has a footprint that is capable of being handled by a robotic handling system (page 559). It is noted that the frame of the microplate with a footprint **sized to be handled by a robotic handling system** has not been positively recited. Therefore, the sizing of footprint of the frame to be handled by a robotic handling system is not accorded patentable weight in the claim. The prior art does not have to teach or fairly suggest the frame actually being handled by the robotic handling system since the prior art teaches the frame with a footprint sized such that it is capable of being handled by a robotic handling system.

Each well is positioned on the frame, such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well (page 560). It is noted that each well **positioned on the frame such that a liquid handling**

system can automatically deposit a sample solution into the first well and reagent solution into the second well has not been positively recited. Therefore, the positioning of each well on the frame such that a liquid handling system can automatically deposit a sample solution into the first well and reagent solution into the second well is not accorded patentable weight in the claim. The prior art does not have to teach or fairly suggest a liquid handling system actually depositing a sample solution into the first well and reagent solution into the second well since the prior art teaches each well positioned such that it is capable of being accessed by a liquid handling system for depositing solutions.

Crystallization solution is placed in the second well, and crystallization solution with dissolved protein is placed in the first well (fig. 1b). It is noted that when protein solution is mixed with crystallization solution, the overall solution containing the protein solution and crystallization solution, as well as the protein, the reagents used to create the protein solution, and the added reagent or crystallization solution, would be diluted or have a lesser concentration such that the reagent or crystallization solution added to the protein would have a lower concentration than the original reagent or crystallization solution, such that the concentration of the crystallization solution in the second wells is lower than the crystallization solution with protein solution of the first well. Additionally, the specification on page 23, lines 1-5 states that the uneven concentration between the reagent solution in the first well and the reagent solution in the second well drives a natural vapor diffusion process towards equilibrium. Since vapor diffusion process occurs and reaches equilibrium by forming protein crystals in the first well or drop chamber in Kim et al., it would appear the reagents used in Kim et al. have an uneven

concentration, where the reagents in second well has a higher concentration than the reagents in the first well (col. 5, lines 9-15).

Stevens does not disclose that a seal is positioned over the plurality of wells. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the microplate of Stevens to include a seal positioned over the plurality of wells as in McPherson et al. to seal the wells from the atmosphere making it conducive to the vapor diffusion process for generating crystals (see COL. 4, lines 3-16; COL. 5, lines 5-25).

12. Claims 5, 6, 8, 37, 41, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over CrystalClear Strips website downloaded 1/18/2001 or WO 00/00678 to Hol et al. in view of U.S. Patent No. 5,096,676 to McPherson et al. or U.S. Patent No. 6,039,804 to Kim et al. in view of U.S. Patent No. 5,096,676 to McPherson et al. or Stevens' "High-Throughput Protein Crystallization" in view of U.S. Patent No. 5,096,676 to McPherson et al., and further in view of U.S. Patent No. 5,910,287 to Cassin et al. and/or U.S. Patent No. 6,503,456 to Knebel and/or U.S. Patent No. 6,340,589 to Turner et al. and/or U.S. Patent No. 6,296,673 to Santarsiero et al.

CrystalClear Strips website or Hol et al. in view of McPherson et al. or Kim et al. in view of McPherson et al. or Stevens' "High-Throughput Protein Crystallization" in view of McPherson et al. disclose all other limitations except that the frame along with the plurality of wells is made from cyclo-olefin. However, Cassin et al. disclose that at least a portion of a bottom surface of a well of the plate is made from cyclo-olefin or substantially the entire bottom to facilitate ease of manufacture (see COL. 6, lines 35-39). Cyclo-olefin can also be used to form the walls of the plate, which is another way of reducing the inherent fluorescence of the plate (see COL. 6, lines 39-41). Cyclo-olefin may optionally comprise any portion of a plate,

including the plate bottom, well walls, inter-well structural members that interconnect the wells, plate sides, plate upper or lower surfaces, as well as plate lids (see COL. 6, lines 42-46). Therefore, it would have been obvious to modify the microplate of CrystalClear Strips website or Hol et al. in view of McPherson et al. or Kim et al. in view of McPherson et al. or Stevens' "High-Throughput Protein Crystallization" in view of McPherson et al. to make the frame from cyclo-olefin as in Cassin et al. to reduce the inherent fluorescence of the plate and facilitate ease of manufacture to make the entire microplate assembly from cyclo-olefin since the bottom and walls of the plate are made from cyclo-olefin.

In the event one would argue that CrystalClear Strips website or Hol et al. in view of McPherson et al. or Kim et al. in view of McPherson et al. or Stevens' "High-Throughput Protein Crystallization" in view of McPherson et al. do not disclose a Society of Biomolecular Screening compatible robotic handling system handling a frame, Cassin et al. disclose that the footprint of a standard 96-well microtiter plate is 12.7 in length and 8.5 cm in width (see COL. 8, lines 55-57). The generally accepted standard footprint for a standard 96-well microtiter plate for robotics application has a length of 12.77 +/- 0.25 cm and width of 8.55 +/- 0.25 cm (see COL. 8, lines 55-63). These standards are within the ranges of the Society of Biomolecular Screening standards, as stipulated in the immediate application. Knebel also discloses a microplate (1) with a frame (2) that complies with the Society of Biomolecular Screening standards (see COL. 5, lines 22-27). Turner et al. also disclose that standardizing the features of the microplate according to Society of Biomolecular Screening standards are recommended in the successful deployment of microplates in robotic handling and liquid handling instruments (see COL. 2, lines 8-18). Santarsiero et al. disclose a robotic handling system, including

transportation of the microplates and liquid distribution of solutions into the wells of the microplates (see FIGS. 1, 4D, 4E, 4F, 4H, 5A, 5B, 5C, 6; COL. 8, line 67; COLS. 9 and 10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the microplate of CrystalClear Strips website or Hol et al. in view of McPherson et al. or Kim et al. in view of McPherson et al. or Stevens' "High-Throughput Protein Crystallization" in view of McPherson et al. to make the frame with a certain footprint and well positioning that is handled by a Society of Biomolecular Screening compatible robotic handling system as in Cassin et al. and/or Knebel and/or Turner et al. and/or Santarsiero et al. to conform with very well known and accepted standards to ensure the availability of robots that can work with the microplate.

Response to Arguments

13. Applicant's arguments filed 5/24/2004 have been fully considered but they are not persuasive.

14. Applicant argues that the cited prior art does not disclose, teach, or suggest the invention recited in claims 1 and 37. Applicant argues that the cited prior art effectively teaches away from the configuration recited in claims 1 and 37. Applicant argues that McPherson and Santarsiero teach each well has a small first well that is entirely located within a large second well and Hol, Norton, and Applicant's admitted Prior art teach the first well is entirely located outside of a large second well. Applicant further argues that the configuration of the well in Hol is nothing like the configuration of the well recited in claims 1 and 37.

15. Examiner notes that it has not been explained how the prior effectively teaches away from the configuration recited in claims 1 and 37. Examiner also notes that it has not been

explained how the configuration of Hol is nothing like the configuration of the well in claims 1 and 37. Examiner emphasizes that McPherson and Santarsiero are secondary references for modifying the primary references for missing limitations of the seal or concaved bottom wells as provided by McPherson or robotic handling system as provided by Santarsiero. In Hol et al. the first well is not entirely located outside of the large second well. Fig. 1 shows that there are four first wells that overlap with the second well by a diffusion channel, which is a small dip between the first and second wells. The instant drawings show that the shortened wall between the first and second wells forms a space at which the first and second wells overlap (see figs. 3c, 4c, 5c). The space formed by the shortened wall may be considered the diffusion channel at which the first and second wells overlap. Therefore, in Hol et al. it cannot be considered that the first well be located entirely outside of the large second well when they intersect with each other at a shortened wall or diffusion channel.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (571) 272-1261. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elizabeth Quan
Examiner
Art Unit 1743

eq

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